Advanced Transportation Technology Assistance Center

Working with the transportation industry to build advanced technologies

In the post–Cold War era, LLNL's overall mission is changing. Much of our effort is now focused toward increasing economic competitiveness through technological commercialization, thus helping to create jobs for the United States and, in particular, California. One major focus area is transportation.

Changing needs

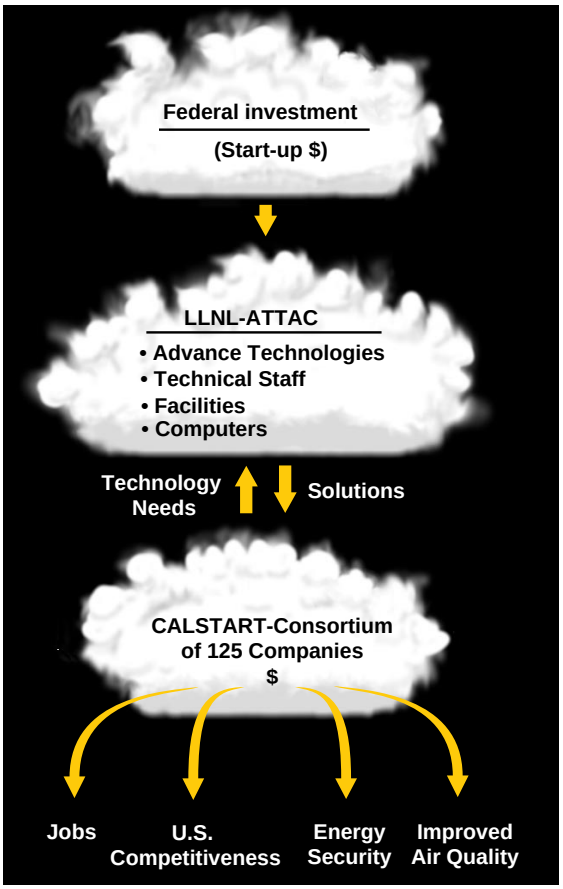
Revolutionary changes are being made in transportation technologies as scientists and engineers try to improve the safety of new vehicles while reducing pollutants and eliminating the use of fossil fuels. Example projects include intelligent vehicle highway systems (IVHS), electric and hybrid vehicles, alternative fuels, and advanced power sources as well as the corresponding infrastructure. The emerging transportation industry will consist largely of many small- and medium-size companies. These companies require different levels of assistance to develop and apply advanced technologies. Because of the expertise we have acquired in designing complex defense systems, LLNL has the research capabilities that can help reduce development time and costs. For example, we are saving hundreds of thousands of dollars in one collaborative project, by using supercomputers to simulate crash tests of advanced vehicles.

APPLICATIONS

- *Simulation modeling and analysis*
- *Prototype testing and evaluation*
- *Materials development and fabrication*
- *Advanced manufacturing*

Goal

The goal of the Advanced Transportation Technology Assistance Center (ATTAC) is to assist in building advanced transportation technologies, and to create jobs, increase economic competitiveness, and clean up the air in California. ATTAC will help businesses develop and improve these technologies. By the year 2000, the emerging advanced transportation industry will be a multibillion-dollar global market. Working with CALSTART, a California nonprofit consortium dedicated to developing and commercializing advanced transportation technologies, we can provide the resources that will give California companies a head start in such research. Support for ATTAC is provided in proposed legislation, SB 1593, introduced in California's State Senate February 22, 1994. This bill will allow LLNL to assist California's advanced transportation companies and help chart a new course for the Laboratory.



ATTAC is working with the transportation industry to build advanced technologies, thus creating jobs, increasing economic competitiveness, and reducing pollution.

Services and deliverables

LLNL's intent is to provide a nonclassified walk-in area where small- to medium-size companies can work with our scientists and engineers to improve transportation technologies. Such collaborations will accelerate product development, help companies enter the marketplace more quickly, and generate jobs for Californians. At ATTAC, our primary services will be to model simulations and analyze the results, test prototypes and improve the designs, develop and fabricate new materials, and apply advanced manufacturing to the necessary components. We will also provide the appropriate reports from such product analysis and testing.

Most projects will be short-term and focused on the needs of a particular business. For example, using defense technology, LLNL and Kaiser Aluminum have developed a running chassis model frame (a structural automobile framework that is compatible with many models), a project that may provide future employment for thousands of Californians. Another example is the DOE's Small Business Initiative Resource (SBIR) Program, which has aided several small companies in transportation efforts. SBIR projects, such as the congestion-reducing IVHS, have resulted in new technologies that save energy, reduce pollutants, and improve safety testing.

Qualifications

Scientists and engineers at LLNL have worked extensively in the transportation field, concentrating on new technologies involving advanced vehicles, safety, infrastructure, and IVHS. Also, LLNL has some of the most sophisticated computational, manufacturing, precision engineering, and testing facilities in the world.

Availability: More than 100 industrial partnerships are now under way with private industry, and many more are being considered. To help in this endeavor, a small management team will draw on all of the resources at LLNL and other national laboratories as needed.

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